

Translation

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PATENT COOPERATION TREATY



PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

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| Applicant's or agent's file reference SK246WO | FOR FURTHER ACTION See Form PCT/IPEA/416 | |
| International application No. PCT/JP2003/009628 | International filing date (day/month/year) 30 July 2003 (30.07.2003) | Priority date (day/month/year) 30 July 2002 (30.07.2002) |
| International Patent Classification (IPC) or national classification and IPC G03G 9/087, 9/097, C08L 67/02 | | |
| Applicant SEKISUI CHEMICAL CO., LTD. | | |

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
 - ☐ (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:
 - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - ☐ (sent to the International Bureau only) a total of _____ (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

- This report contains indications relating to the following items:

- ☒ Box No. I Basis of the report
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

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| Date of submission of the demand 16 February 2004 (16.02.2004) | Date of completion of this report 15 December 2004 (15.12.2004) |
| Name and mailing address of the IPEA/JP | Authorized officer |
| Facsimile No. | Telephone No. |

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2003/009628

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ The international application as originally filed/furnished
- ☐ the description:
pages _____, as originally filed/furnished
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____
- ☐ the claims:
pages _____, as originally filed/furnished
pages* _____, as amended (together with any statement) under Article 19
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____
- ☐ the drawings:
pages _____, as originally filed/furnished
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP02/09628

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)

Claims

4-10, 12-16, 17, 18, 20, 21, 23-25

YES

Claims

1-3, 11, 19, 22

NO

Inventive step (IS)

Claims

5-9, 12-15, 17, 18

YES

Claims

1-4, 10, 11, 16, 19-25

NO

Industrial applicability (IA)

Claims

1-15

YES

Claims

NO

2. Citations and explanations (Rule 70.7)

The following documents are cited in the ISR:

Document 1: JP, 56-65146, A (Toyobo Co., Ltd.), 2 June, 1981 (02.06.81)

Document 2: JP, 5-165252, A (Dainippon Ink and Chemicals, Inc.), 2 July, 1993 (02.07.93)

Document 3: JP, 2001-305788, A (Konica Corp.), 2 November, 2001 (02.11.01)

Document 4: JP, 9-258484, A (Toshiba Corp.), 3 October, 1997 (03.10.97)

Document 5: JP, 7-301951, A (Sanyo Chemical Industries, Ltd.), 14 November, 1995 (14.11.95)

Document 6: JP, 2001-222138, A (Kao Corp.), 17 August, 2001 (17.08.01)

Claims 1, 11, 19 and 22

With regard to the subject matter of claim 1, judging from the crystal melting heat of the crystalline polyester described in document 1 (page 2, upper right column, lines 18-20; page 2, lower left column, line 16 to page 3, upper left column, line 4; page 4, Table 1; and page 5, upper left column), the quantity of heat absorbed at the melting point is in about the same range as stated in claim 1 of the present application. Therefore, the subject matter of claim 1 does not appear to be novel or to involve an inventive step.

Claim 2

Judging from the crystal melting heat described in document 1 (page 5, upper left column) and the mixed amount of the resin described in the document (page 5, Table 2), it is highly probable that "the quantity of heat adsorbed at the melting point" by the toner resin composition described in document 1 is in about the same range as stated in claim 2 of the present application. So, the subject matter of claim 2 does not appear to be novel or to involve an inventive step.

Claim 3

It is considered that the resin composition containing crystal particles described in claim 3 is obtained by melt-kneading a crystalline polymer with a high melting point and a non-crystalline polyester with its glass transition temperature in a specific range. Document 1 (page 6, lower left column) describes melt-mixing two resins, and it is highly probable that the particle size of the crystal particles is in the range stated in claim 3. Therefore, the subject matter of claim 3 does not appear to be novel or to involve an inventive step.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP03/09628

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claim 2 states "the quantity of heat absorbed at the melting point," but what absorbs the quantity of heat is not clear. In reference to the numerical range, it is estimated that the resin composition for toners absorbs the quantity of heat, and a similar description is made also on page 6 of the specification. However, whether a resin composition for toners as a mixture consisting of plural polyester resins has a clear melting point is questionable in view of the common general technical knowledge.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: V

Claim 4

The subject matter of claim 4 does not appear to involve an inventive step in view of document 1 and document 2 (see the haze values of [Table 2]). A person skilled in the art could have easily set the haze value of a polyester resin for toners in the range stated in document 2.

Claim 10

The subject matter of claim 10 does not appear to involve an inventive step in view of document 1 and document 3 (see the weight average molecular weights of [Table 1]). A person skilled in the art could have easily kept the molecular weight of a polyester resin for toners at about the same level as stated in document 3.

Claim 16

The subject matter of claim 16 does not appear to involve an inventive step in view of document 1 and document 3 (see the monomer compositions of [Table 1]). A person skilled in the art could have easily employed the monomers stated in document 3 as the monomers used as the ingredients of a polyester for toners.

Claim 20

The subject matter of claim 20 does not appear to involve an inventive step in view of documents 1 and 4. For example, in reference to document 4 ([0050]-[0052]), it is clear that the glass transition temperature of a mixture consisting of two resins different in glass transition temperature is close to a weighted average of the glass transition temperatures of the two resins ("the softening temperature Tg(H) of the obtained polymer" in [0050] is considered to be an error for "the glass transition temperature Tg(H) of the obtained polymer" in view of the symbol Tg used and the values relating to Example 1 in the table of [Fig. 7]). The formula (3) merely expresses this relation.

Claim 21

The subject matter of claim 21 does not appear to involve an inventive step in view of document 1 and document 5 ([0014]). As the acid value of a polyester resin for toners, the values stated in claim 21 are not special, and a person skilled in the art could have easily set the acid value in such a range.

Claims 23-25

The subject matters of claims 23-25 do not appear to involve an inventive step in view of document 1 and document 6 ([0016], [0029], [0030], [Table 3], Example 11). Letting a toner contain a releasing agent with a low melting point is a well-known and commonly used technique, and the melting points stated in claim 23 are mere ordinary values as the melting points of releasing agents for toners. So, a person skilled in the art could have easily employed the values.

The subject matters of claims 5-9, 12-15, 17 and 18 are neither described in any of the documents cited in the ISR nor obvious to a person skilled in the art.